1. Solve the equation for x and choose the interval that contains x (if it exists).

$$13 = \sqrt[7]{\frac{28}{e^{5x}}}$$

A. $x \in [2.92, 5.92]$

B. $x \in [-21.87, -17.87]$

C. $x \in [-2.36, 0.64]$

D. There is no Real solution to the equation.

E. None of the above.

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2. Solve the equation for x and choose the interval that contains the solution (if it exists).

$$2^{4x-2} = 9^{3x+5}$$

A. $x \in [-3.24, -2.24]$

B. $x \in [4, 11]$

C. $x \in [10.37, 14.37]$

D. $x \in [-2.83, 0.17]$

E. There is no Real solution to the equation.

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3. Which of the following intervals describes the Range of the function below?

$$f(x) = -e^{x+4} + 2$$

A. $[a, \infty), a \in [-5, 1]$

B. $(-\infty, a), a \in [-1, 10]$

C. $(-\infty, a], a \in [-1, 10]$

D. $(a, \infty), a \in [-5, 1]$

E. $(-\infty, \infty)$

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4. Solve the equation for x and choose the interval that contains the solution (if it exists).

$$2^{4x+2} = 343^{2x+5}$$

A. $x \in [-4.5, -2.9]$

B. $x \in [12.5, 15.1]$

C. $x \in [-1, 0.6]$

D. $x \in [1.4, 3]$

E. There is no Real solution to the equation.

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5. Which of the following intervals describes the Range of the function below?

$$f(x) = \log_2(x+3) - 8$$

A. $(-\infty, a), a \in [-10, -6]$

B. $(-\infty, a), a \in [7, 11]$

C. $[a, \infty), a \in [-6, -2]$

D. $[a, \infty), a \in [3, 5]$

E. $(-\infty, \infty)$

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6. Which of the following intervals describes the Domain of the function below?

$$f(x) = -\log_2(x+8) + 4$$

A. $(-\infty, a), a \in [5.8, 8.9]$

B. $(a, \infty), a \in [-9.3, -6]$

C. $[a, \infty), a \in [3.8, 7.1]$

D. $(-\infty, a], a \in [-6.6, -2.7]$

E. $(-\infty, \infty)$

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7. Solve the equation for x and choose the interval that contains x (if it exists).

$$12 = \sqrt[5]{\frac{27}{e^{3x}}}$$

A. $x \in [-24.1, -19.1]$

B. $x \in [-6.04, -2.04]$

C. $x \in [-1.56, 0.44]$

D. There is no Real solution to the equation.

E. None of the above.

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8. Solve the equation for x and choose the interval that contains the solution (if it exists).

$$\log_5 (2x + 8) + 5 = 2$$

A. $x \in [-4, -3]$

B. $x \in [5.5, 12.5]$

C. $x \in [-122.5, -114.5]$

D. $x \in [-129.5, -123.5]$

E. There is no Real solution to the equation.

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9. Solve the equation for x and choose the interval that contains the solution (if it exists).

$$\log_4 (2x + 7) + 4 = 2$$

A. $x \in [0.5, 7.5]$

B. $x \in [0.5, 7.5]$

C. $x \in [-7.47, -2.47]$

D. $x \in [11.5, 19.5]$

E. There is no Real solution to the equation.

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10. Which of the following intervals describes the Domain of the function below?

$$f(x) = -e^{x+7} + 7$$

A. $(a, \infty), a \in [-11, 0]$

B. $(-\infty, a], a \in [6, 9]$

C. $[a, \infty), a \in [-11, 0]$

D. $(-\infty, a), a \in [6, 9]$

E. $(-\infty, \infty)$